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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,801

07/30/2003

Naoto Abe

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06/01/2005

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,801

Applicant(s)

ABE ET AL.

Examiner

XIAO M. WU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/330,153.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: 7/30/03, 9/2/03, 12/16/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 32-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Amano (US Patent No. 4,021,607).

3. As to claims 32, 42, Amano discloses an image display apparatus comprising: a plurality of display devices (1, Fig. 5) wired in a matrix through a plurality of scanning signal wirings (X1-X5, Fig. 5) and a plurality of modulated signal wirings (A1 to D4, Fig. 5); and a driving circuit (Fig. 5) for applying a modulated signal having a pulsewidth (see Fig. 9) corresponding to an image signal to each of said plurality of modulated signal wirings, wherein said driving circuit causes the modulated signal to fall in discrete decrements to a non-display state from a display state (see 37, 7, 11, 15, Fig. 9).

As to claims 33, 43, Amano discloses an image display apparatus comprising: a plurality of display devices (1, Fig. 5) wired in a matrix through a plurality of scanning signal wirings (X1-X5, Fig. 5) and a plurality of modulated signal wirings (A1 to D4, Fig. 5); a driving circuit (Fig. 5) for applying a modulated signal having a pulsewidth (see Fig. 9) corresponding to an image signal to each of said plurality of modulated signal wirings, and a switching circuit (Q1 to Q3, Fig. 5) provided to each of the modulated signal wirings, adapted to change a signal level of the modulated signal in discrete decrements from a predetermined level of a display state to a

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predetermined level of a non-display state (see Fig. 9) by way of an intermediate level (see 37, 7, 11, 15, Fig. 9) having a predetermined time period between the predetermined level having the predetermined time period of the display state and the predetermined state of the non-display state.

As to claims 34, 35 Amano discloses the driving circuit has a plurality of charge paths for changing a signal level of the modulated signal and at least one of the plurality of charges paths is connected to a predetermined potential (see Figs. 5 and 9).

As to claim 36, Amano discloses the plurality of charge paths have different change amounts per unit time of the signal level when the signal level is to fall (see Fig. 9).

As to claim 37, Amano discloses the operation states of the plurality of charge paths are changed by exclusively operating charge paths having different change amounts per unit time of the signal level when the signal level is to fall (see Fig. 9).

As to claim 38, Amano discloses the plurality of charge paths are arranged to operate in parallel (see Fig. 5), and the operation states of the plurality of charge paths are changed by changing the number of parallel-operating charge paths (see 2, 3, Fig. 9).

As to claim 39, Amano discloses a circuit (13, 14, 15, Fig. 5) for determining the operation states of the plurality of charge paths.

As to claim 40, Amano discloses the driving circuit comprises a rise circuit for raising a signal level (see level 9 and 8 of Fig. 9) and a separate fall circuit (see level 15 of Fig. 9) for causing the signal level to fall.

As to claim 41. Amano discloses each said display device comprises an electron-emitting device (see col. 2, lines 35-36).

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 5,122,791, 5,790,089, 6,232,963, 6,897,671 are cited to teach a driving circuit for a plat panel display device.

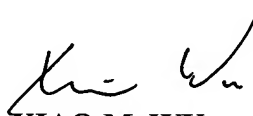
Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571 272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK EDOUARD, can be reached on 571 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

x.w.

May 30, 2005


XIAO M. WU
Primary Examiner
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